

What is claimed is:

Sub 31 > 1. A method for killing cancer cells comprising the step of administering to an individual suffering from cancer an amount of a Herpes simplex virus (HSV) comprising a modified HSV genome wherein said modification comprises a modification of an inverted repeat region of said HSV genome such that one  $\gamma_134.5$  gene remains intact and said amount of HSV being effective to kill cancer cells.

2. The method of claim 1 wherein the modification of the inverted repeat region of the genome comprises an alteration of a copy of a  $\gamma_134.5$  gene which renders that copy of the gene incapable of expressing an active gene product.

3. The method of claim 2 wherein the alteration of the  $\gamma_134.5$  gene comprises an insertion of a DNA sequence comprising one or more nucleotides into the coding region or regulatory region of the gene.

4. The method of claim 2 wherein the alteration of the  $\gamma_134.5$  gene comprises a deletion of all or part of the coding region or regulatory region of the gene.

5. The method of claim 1, 2, 3, or 4 wherein the modified HSV genome further comprises an alteration in a unique region of the HSV genome.

6. The method of claims 1, 2, 3, or 4 wherein the cancer is a noncentral nervous system cancer.

7. The method of claim 1, 2, 3, or 4 wherein the cancer is a central nervous system cancer.

8. The method of claim 5 wherein the cancer is non-central nervous system cancer.

9. The method of claim 5 wherein the cancer is a central nervous system cancer.

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